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EXAMINER

MULL, FRED H

ART UNIT PAPER NUMBER

3662

DATE MAILED: 01/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,910

Applicant(s)

NAGY, LOUIS L.

Examiner

Fred H. Mull

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-4, 8-11, 15-18, and 22-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Coleman (2001).

In regard to claims 1, 15-16, and 22-23, Coleman (2001) discloses:

a plurality of antenna elements (Fig. on p. 5, "Wire Segments");

a plurality of switching elements ("Switches") arranged with the antenna elements to, when selectively closed, electrically couple selected ones of the antenna elements to one another to generate an antenna configuration selected from a plurality of antenna configurations (text on p. 5);

a control arrangement operatively coupled to the plurality of switching elements and configured to close selected ones of the switching elements as a function of the selected antenna configuration (Fig. on p. 4); and

a memory operatively coupled to the control arrangement and configured to store data representing at least some of the plurality of antenna configurations and to selectively update the data (p. 14), where the configurations determined in the outer

search algorithm are stored to be passed to the inner search algorithm, which selectively updates the configurations and passes them to the outer search algorithm.

In regard to claims 2, Coleman (2001) further discloses the control arrangement is coupled to receive a control signal and configured to: select the antenna configuration from the plurality of antenna configurations in response to the control signal; select the selected ones of the switching elements as a function of the selected antenna configuration; and provide a switch control signal to the selected ones of the switching elements to close the selected ones of the switching elements (Fig. on p. 4).

In regard to claims 8-9, Coleman (2001) further discloses the control arrangement comprises: a processor arrangement configured to select the antenna configuration from the plurality of antenna configurations in response to the control signal; and a switch controller operatively coupled to the plurality of switching elements and to the processor arrangement and configured to close the selected ones of the switching elements as a function of the selected antenna configuration (Fig. on p. 4).

In regard to claims 3, 10, 17, and 24, Coleman (2001) further discloses the control signal comprises one of a received signal strength indicator (RSSI) signal, an antenna impedance indicator signal, and a control signal received from a remote receiver (cover page, lines 5-8).

In regard to claims 4, 11, 18, and 25, Coleman (2001) further discloses the control signal is generated as a function of an operational mode of the antenna system (Fig. on p. 4).

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2. Claims 1-4, 6, 8-11, 13, 15-18, 20, 22-25 and 27 are rejected under 35

U.S.C. 102(b) as being anticipated by Ross.

In regard to claims 1, 15-16, and 22-23, Ross discloses:

a plurality of antenna elements (p. 1, line 9, Fig. on p. 5);

a plurality of switching elements (p. 1, line 10, Fig. on p. 5) arranged with the antenna elements to, when selectively closed, electrically couple selected ones of the antenna elements to one another to generate an antenna configuration selected from a plurality of antenna configurations (p. 1, 1st ¶);

a control arrangement operatively coupled to the plurality of switching elements and configured to close selected ones of the switching elements as a function of the selected antenna configuration (p. 1, 2nd ¶; Fig. 2; p. 6); and

a memory operatively coupled to the control arrangement and configured to store data representing at least some of the plurality of antenna configurations and to selectively update the data (p. 12-13), where the configurations determined in the prior population of a genetic search algorithm are stored to be passed to the subsequent generation, which selectively updates the configurations using mating and mutation.

In regard to claims 2, Ross further discloses the control arrangement is coupled to receive a control signal and configured to: select the antenna configuration from the plurality of antenna configurations in response to the control signal; select the selected ones of the switching elements as a function of the selected antenna configuration; and provide a switch control signal to the selected ones of the switching elements to close the selected ones of the switching elements (p. 1, 2nd ¶; Fig. 2; p. 6).

In regard to claims 8-9, Ross further discloses the control arrangement comprises: a processor arrangement configured to select the antenna configuration from the plurality of antenna configurations in response to the control signal; and a switch controller operatively coupled to the plurality of switching elements and to the processor arrangement and configured to close the selected ones of the switching elements as a function of the selected antenna configuration (p. 1, 2nd ¶; Fig. 2; p. 6).

In regard to claims 3, 10, 17, and 24, Ross further discloses the control signal comprises one of a received signal strength indicator (RSSI) signal, an antenna impedance indicator signal, and a control signal received from a remote receiver (p. 1, lines 15-17; p. 7, 1st ¶; p. 17, final ¶).

In regard to claims 4, 11, 18, and 25, Ross further discloses the control signal is generated as a function of an operational mode of the antenna system (p. 1, 2nd ¶; Fig. 2; p. 6).

In regard to claims 6, 13, 20, and 27, Ross further discloses the control signal is generated as a function of a tuned frequency (p. 25; p. 32, 3rd ¶).

3. Claims 1-5, 7-12, 15-19, 21-26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Coleman (2002).

In regard to claims 1, 15-16, and 22-23, Coleman (2002) discloses:
a plurality of antenna elements (Fig. 2, "Wire Segments");
a plurality of switching elements ("Controllable Switches") arranged with the antenna elements to, when selectively closed, electrically couple selected ones of the

antenna elements to one another to generate an antenna configuration selected from a plurality of antenna configurations (p. 11, section 1, 3rd ¶);

a control arrangement operatively coupled to the plurality of switching elements and configured to close selected ones of the switching elements as a function of the selected antenna configuration (Fig. 1); and

a memory operatively coupled to the control arrangement and configured to store data representing at least some of the plurality of antenna configurations and to selectively update the data (p. 12, section 2.5), where the configurations determined in the prior population of a genetic search algorithm are stored to be passed to the subsequent generation, which selectively updates the configurations using mating and mutation.

In regard to claims 2, Coleman (2002) further discloses the control arrangement is coupled to receive a control signal and configured to: select the antenna configuration from the plurality of antenna configurations in response to the control signal; select the selected ones of the switching elements as a function of the selected antenna configuration; and provide a switch control signal to the selected ones of the switching elements to close the selected ones of the switching elements (Fig. 1; section 2.4).

In regard to claims 8-9, Coleman (2002) further discloses the control arrangement comprises: a processor arrangement configured to select the antenna configuration from the plurality of antenna configurations in response to the control signal; and a switch controller operatively coupled to the plurality of switching elements

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and to the processor arrangement and configured to close the selected ones of the switching elements as a function of the selected antenna configuration (Fig. 1; section 2.4).

In regard to claims 3, 10, 17, and 24, Coleman (2002) further discloses the control signal comprises one of a received signal strength indicator (RSSI) signal, an antenna impedance indicator signal, and a control signal received from a remote receiver (section 1, 3rd ¶; section 2.3).

In regard to claims 4, 11, 18, and 25, Coleman (2002) further discloses the control signal is generated as a function of an operational mode of the antenna system (Fig. 1; section 2.4).

In regard to claims 5, 12, 19, and 26, Coleman (2002) further discloses the operational mode is selected from the group consisting of AM radio, FM radio, television, remote function access (RFA), wireless data and voice communications, global positioning system (GPS), and satellite-based digital audio radio services (SDARS) (section 7, 3rd ¶; section 8.2).

In regard to claims 7, 21, and 28, Coleman (2002) further discloses the control signal is generated in response to activating a vehicle communication system (sections 7, 8.2, 8.3, 8.4, 8.7; Figs. 19 and 21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Coleman (2001), Ross, and Coleman (2002).

It would have been obvious that the control signal would not be needed when the system was not activated, and to generate the control signal upon system activation.

5. The examiner also finds the following reference(s) relevant:

Rothwell, which discloses a self-structuring antenna system using genetic algorithms, similar to Ross and Coleman (2002).

Applicant is encouraged to consider these documents in formulating their response (if one is required) to this action, in order to expedite prosecution of this application.

6. The examiner also finds the following reference(s) relevant, but not prior art:
Coleman (2004), published April 2004.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred H. Mull whose telephone number is 703-305-1250. The examiner can normally be reached on M-F 9:00 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas H Tarcza can be reached on 703-360-4171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Fred H. Mull
Examiner
Art Unit 3662

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